

### Abstract of the Invention

An alkaline lipase isolated from *Vibrio metschnikovii* RH530 and a polynucleotide sequence encoding the same are provided. The isolated alkaline lipase has an amino acid sequence of SEQ ID NO: 5 and the polynucleotide having  
5 a base sequence of SEQ ID NO: 4 encodes the alkaline lipase. The isolated alkaline lipase exhibits an optimal activity at a high pH level, that is, at pH 10~11, and has very high ratio of residual enzyme activity and high compatibility with a surfactant, so that it can be suitably used as an enzyme for a laundry detergent.